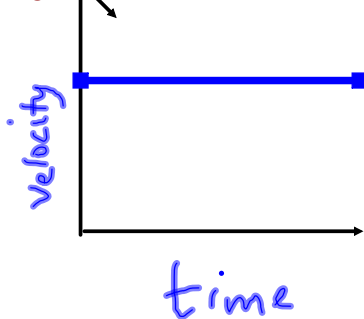
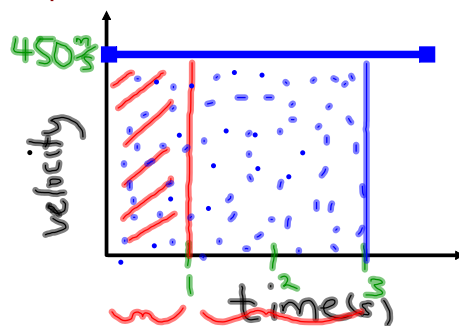


Velocity - Time Graphs

Using the instantaneous velocities we can obtain from a displacement - time graph or displacement - time data, we can draw a velocity - time graph. A velocity - time graph for uniform motion is a straight horizontal line.

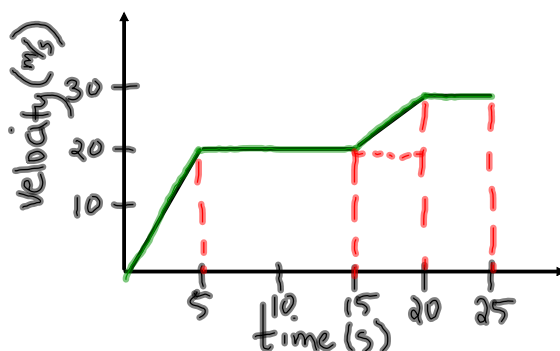


Finding the area under a velocity - time graph will give you the displacement in that time frame.



$$\begin{aligned}
 A_1 &= l \times w \\
 &= 1s \times 450 \frac{m}{s} \\
 &= 450 m \\
 A_{1-3} &= 2s \times 450 \frac{m}{s} \\
 &= 900 m \\
 \text{total } d &= 450 + 900 \\
 &= 1350 m
 \end{aligned}$$

Try This



- find the displacement in the first 5s.
- find the displacement in the last 5s.
- find the total displacement.

t(s)	v(m/s)
0.0	0.0
1.0	7.0
2.0	7.0
3.0	8.0
4.0	12.0
5.0	11.0
6.0	9.0
7.0	9.0
8.0	8.0

Draw the velocity-time graph. Find the area under the curve to determine the total displacement.